Apple® 3.5 Drive Owner's Guide

Apple IIGS®, Macintosh®

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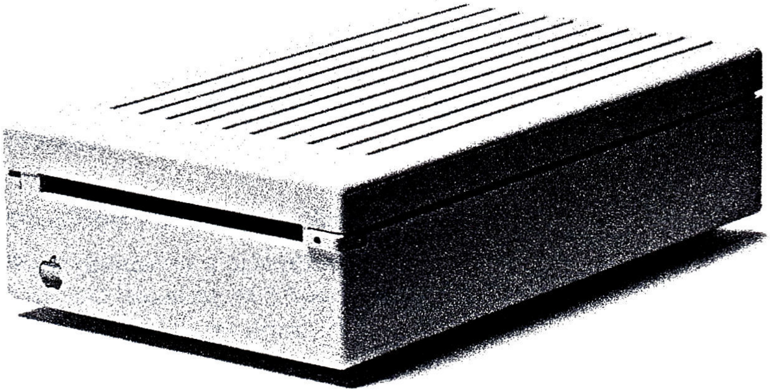
This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. See instructions if interference to radio or television reception is suspected.

Apple® Apple 3.5 Drive Owner's Guide



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Simultaneously published in the United States and Canada.

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Radio and television interference

The equipment described in this manual generates and uses radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with our instructions—it may cause interference with radio and television reception.

This equipment has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Subpart J, Part 15, of FCC rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation, especially if a "rabbit-ear" television antenna is used. (A rabbit-ear antenna is the telescoping-rod type usually found on television receivers.)

You can determine whether your computer is causing interference by turning it off. If the interference stops, it was probably caused by the computer or its peripheral devices. To further isolate the problem, disconnect the peripheral devices and their input/output (I/O) cables one at a time. If the interference stops, it was caused by either the peripheral device or the I/O cable. These devices usually require shielded I/O cables. For Apple peripheral devices, you can obtain the proper **shielded cable** from your dealer. For non-Apple peripheral devices, contact the manufacturer or authorized Aple dealer for assistance.

A **shielded cable** uses a metallic wrap around the wires to reduce the potential effects of radio-frequency interference.

Important This product was FCC-certified under test conditions that included use of shielded cables and connectors between system components. It is important that you use shielded cables and connectors to reduce the possibility of causing interference to radio, television, and other electronic devices.

If your computer does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the computer to one side or the other of the television or radio.
- Move the computer farther away from the television or radio.
- Plug the computer into an outlet that is on a different circuit than the television or radio. (That is, make certain the computer and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with a coaxial cable lead-in between the antenna and television.

If necessary, consult your authorized Apple dealer or an experienced radio/television technician for additional suggestions.

Preface

Your new Apple® 3.5 Drive gives you fast performance and 800 kilobytes (800K) of data storage on each 3.5-inch double-sided disk.

You'll get maximum performance from your drive if you copy all the applications you can from your smaller-capacity disks to a double-sided disk.

The Apple 3.5 Drive works with these systems:

- Apple IIGS
- Macintosh™ Plus
- Macintosh 512K with ROM upgrade
- Macintosh 512K *enhanced*
- Macintosh 512K

If you're an Apple IIGS owner, turn directly to Chapter 1 for setting-up instructions.

If you're a Macintosh owner, begin with Chapter 2.

The "Troubleshooting" section in Chapter 2 has information about Macintosh upgrades and enhancements. If you're not sure whether you have the correct system software, check with your authorized Apple dealer.

Chapter 1

Setting Up and Using Your Drive With an Apple IIGS

This chapter explains how to set up and use your Apple 3.5 Drive with an Apple IIGS. If you are connecting the drive to a Macintosh, see Chapter 2.

Setting up

1. Turn off your computer.

Warning Leaving your computer on while you connect the disk drive to it could damage the circuits of both the computer and the drive.

---

2. Touch one of the metal connectors on the back of the computer to discharge any static electricity that may be on your body.

   If you don't discharge static electricity, the drive could be permanently damaged.

3. Plug the Apple 3.5 Drive cable into the disk drive port on the back of the computer and tighten the retaining screws.

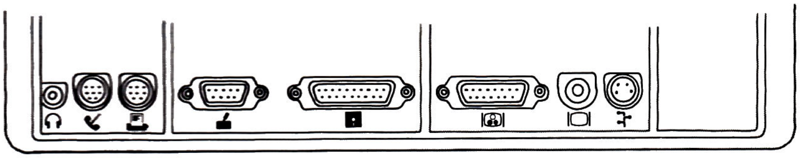


Figure 1-1
Connecting the Apple 3.5 Drive to an Apple IIGS

4. Turn on the computer's power switch.

   A yellow plastic packing disk will eject. This disk was inserted at the factory to protect the drive mechanism during shipment.

   See "Removing a Disk" if the yellow packing disk doesn't eject automatically. You must remove it before you can operate your drive.

5. Gently pull the packing disk all the way out of the drive and keep it for later use.

   Use this disk to protect your drive mechanism whenever you transport your drive.

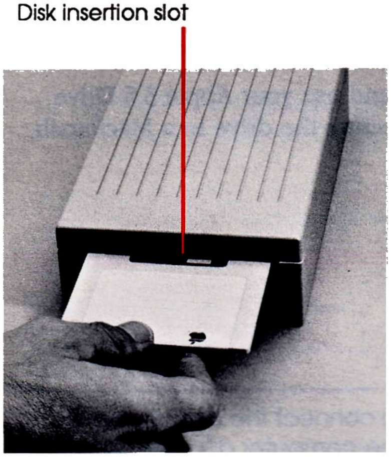


Figure 1-2
Inserting a 3.5-inch disk

Using your drive

Now that you've set up your drive, here's how to use it.

Inserting a disk

Insert your disk into the slot on the front of your drive, metal end first, label side up. When you have pushed the disk nearly all the way in with your thumb, the drive's internal mechanism automatically locks it into place.

Removing a disk

Before you remove a 3.5-inch disk, make sure the drive's "in use" light is off so you won't lose any data.

To remove a disk when your computer is on, push the eject button. Then gently pull the disk out of the slot. The eject button works only when the power is on.

When the power is off: If there is a power failure, or if the eject button doesn't release a disk, you can remove the disk from the drive manually. To remove a disk manually, use a straightened-out paper clip or similar object. Insert it into the access hole on the eject button. Push hard on the paper clip until the mechanical eject mechanism releases the disk. (If the disk doesn't come out, push harder so you release the spring inside the drive.)

Your disks are designed to be easily removable. You should not have to use force. If a disk gets stuck, see your dealer. You can lose data and damage both the disk and the drive mechanism by forcing a disk out.

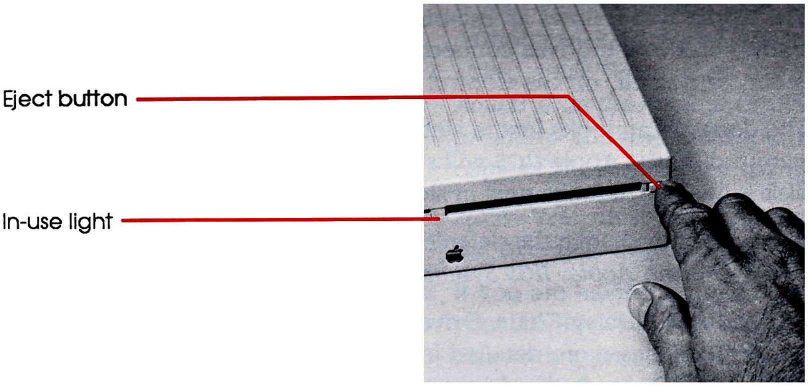


Figure 1-3
Removing a 3.5-inch disk

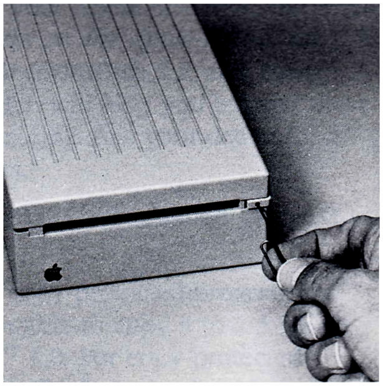


Figure 1-4
Removing a 3.5-inch disk manually

Formatting a disk

You have to format (initialize) disks before you can store data on them. You can also format a disk if you want to erase it and reuse it. See the *Apple IIGS System Disk User's Guide* for instructions on formatting disks.

When you insert a new disk in the Apple 3.5 Drive, you use the Check Drive option in the Finder to indicate the slot and drive location of the disk. Then you use the Format option to choose an operating system for formatting. The *Apple IIGS Owner's Guide* has information about operating systems.

❖ *Note:* The Macintosh uses a different operating system than your Apple IIGS. If you are using 3.5-inch disks on both machines, be sure to keep the disks separate. A 3.5-inch disk formatted in your Apple IIGS won't work in your Macintosh, and vice versa.

Starting up from your 3.5 Drive

The Apple IIGS follows an established order as it searches for a startup disk in the drives connected to it. You can change that order, or default, on the Control Panel of the Finder.

The default scan looks first in slot 6 for a 5.25 disk drive. If it finds a startup disk, the Apple IIGS will start up from that disk. If no startup disk is in slot 6, it looks next in slot 5.

If you want to change the default and start up from your Apple 3.5 Drive, see the *Apple IIGS System Disk User's Guide* for instructions.

Appendix A, "Daisy-Chain Drive Combinations for the Apple IIGS," has more detailed information about the way in which the Apple IIGS reads the drives connected to it.

Copying programs: troubleshooting

Use the *Apple IIGS System Disk* (version 2.1.2 or greater) to copy programs to your 3.5-inch disks. See the *Apple IIGS System Disk User's Guide* for information about the Finder and about transferring programs and documents from 5.25-inch to 3.5-inch disks.

You can use your Apple 3.5 Drive with either the Pascal 1.3 or the ProDOS® operating system. See the *Apple IIGS Owner's Guide* for information about operating systems.

If you have trouble copying some of your files or programs to your 3.5-inch disks, you may have compatibility problems. Here are some suggestions about what to do:

- DOS 3.3 files must be converted to ProDOS format before they can be used on 3.5-inch disks. Use the Filer in your System Utilities to convert the files. (Some DOS 3.3 programs may not start up or run properly after you convert them.)
- AppleWorks™, Apple Writer™, and Access II have been updated to work with Apple 3.5 disks.

  If your version doesn't work with your Apple 3.5 Drive, the Apple pamphlets titled *Using AppleWorks on the Apple II UniDisk 3.5*, *Using Apple Writer II on the Apple II UniDisk 3.5*, and *Using Access II on the Apple II UniDisk 3.5* will help you transfer these programs and find out about upgrading. Ask your dealer for a copy of the appropriate pamphlet.

❖ *Note:* You must have a Super Serial Card installed in slot 2 to use Access II with an Apple IIGS.

- If you are having trouble using a copy-protected program on your Apple 3.5 Drive, you may be able to copy it to a 3.5-inch disk with a program like Catalyst™ 4.0. For copy-protected programs that can't be copied with Catalyst, check with the program developer or the company that markets your software to find out whether you can use the copy-protected program on your Apple 3.5 Drive.

Installing a second external drive

When you want to connect another disk drive to your Apple IIGS, you connect it to your first drive in what's called *daisy-chain* fashion. Your second drive can be any of the following:

- Apple 3.5 Drive (800K)
- UniDisk™ 3.5 Drive (800K)
- Apple 5.25 Drive (143K)
- UniDisk Drive (143K)
- DuoDisk™ Drive (contains two 143K drives)

The power for the disk drives comes from your Apple IIGS, so we do not recommend that you daisy-chain more than four drives to it. See Appendix A for recommended daisy-chain drive combinations.

To connect a second drive to your Apple 3.5 Drive, follow these steps:

1. Turn off your computer.
2. Remove the plastic plug from the back of your first Apple 3.5 Drive with a flat, slotted screwdriver.

   Pry the plug up to loosen it.
3. Plug the second drive's cable into the connector on the back of the first Apple 3.5 Drive.
4. Tighten the retaining screws on the drive cable connector.
5. Attach the drive identification label *2* to the recess in the upper-left corner (next to the "in use" indicator light) of your second disk drive.

   See Figure 3-3 if you're not sure where to attach the label.

If you have a hard disk: See *Setting Up Your Apple IIGS* for information on using the slots in your Apple IIGS.

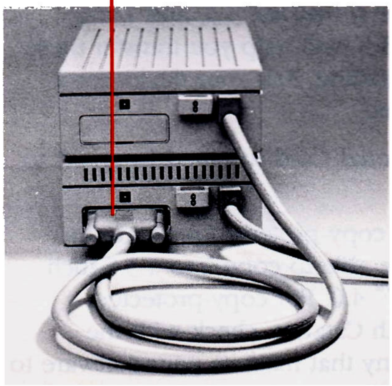


Figure 1-5
Daisy-chaining a second drive

Chapter 2

Setting Up and Using Your Drive With a Macintosh

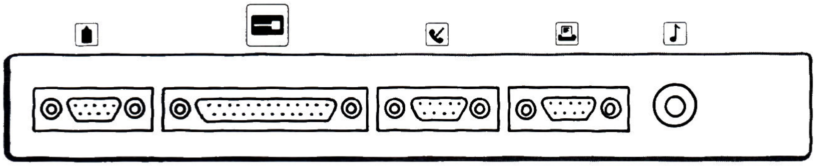
This chapter explains how to set up and use your Apple 3.5 Drive with a Macintosh Plus, a Macintosh 512K *enhanced*, a Macintosh 512K with ROM upgrade, and a Macintosh 512K. If you are connecting the drive to an Apple IIGS, see Chapter 1.

Setting up

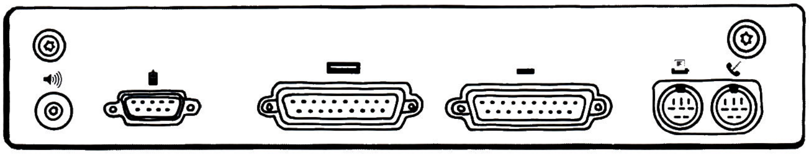
1. Turn off the Macintosh.
2. Touch one of the metal connectors on the back of the Macintosh to discharge any static electricity that may be on your body.

Warning If you don't discharge static electricity, the drive could be permanently damaged.

3. Plug the drive cable into the disk drive port on the back of the Macintosh.



Macintosh



Macintosh Plus

Figure 2-1
The drive port

4. Place the drive next to the Macintosh, not on top of it.

   Magnetic interference from the upper-left corner of the Macintosh can affect how the drive works. Placing the drive too close to the Macintosh can obstruct the air vents and keep your Macintosh from cooling properly.

5. Turn on your Macintosh.

   A yellow plastic packing disk will eject automatically. This disk was inserted at the factory to protect the drive mechanism during shipment. You must remove it before you can operate your drive.

❖ *Note:* The Macintosh won't eject the yellow disk automatically if you have a startup disk in the internal drive. If you see a dialog box, click on Eject. Then the yellow disk will be ejected.

6. Gently pull the packing disk all the way out of the drive and keep it for later use.

   Use this disk to protect your drive mechanism whenever you transport your Apple 3.5 Drive.

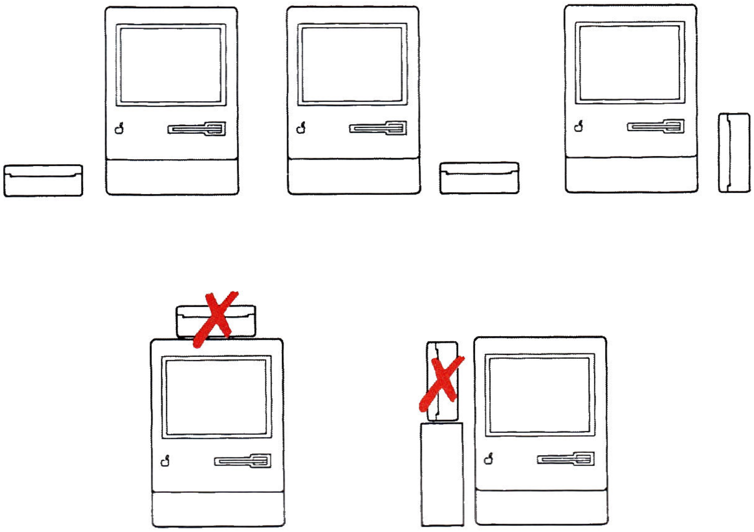
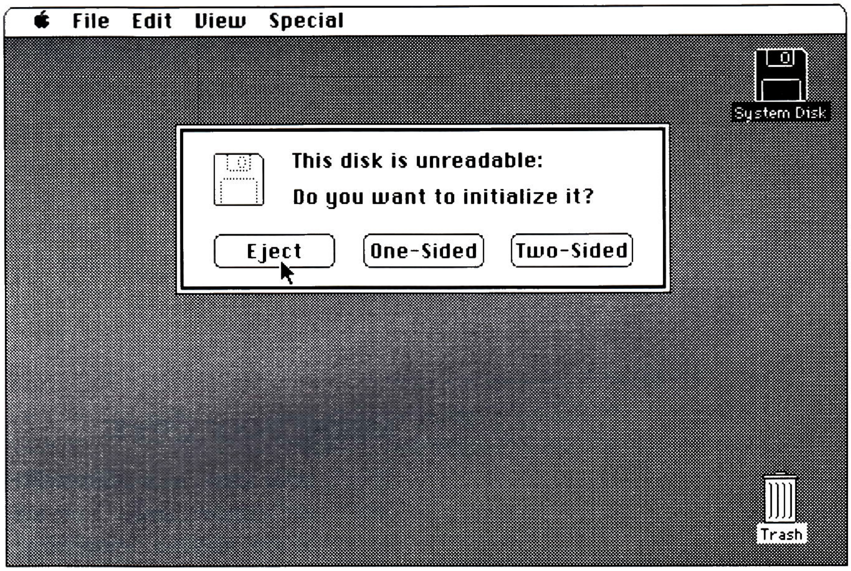


Figure 2-2
Correct drive placement


File
Edit
View
Special
System Disk
Trash

This disk is unreadable:
Do you want to initialize it?

Eject
One-Sided
Two-Sided

Software you need

No matter which Macintosh you are using, you must use specific versions of software so your drive will work correctly. The software you need to use includes

- System File version 2.1 or a later version
- Finder version 5.1 or a later version
- the hierarchical file system contained in the new ROM or in the file Hard Disk 20

If you are using a Macintosh Plus, a Macintosh 512K *enhanced,* or a Macintosh 512K with the internal drive upgraded to double-sided (with the Macintosh Plus Disk Drive Kit, Part Number M2516), you have all the correct software versions on your *System Tools* disk.

If you are using a Macintosh 512K with no upgrades, you need new software. The Macintosh System Software Update, Part Number M0560, contains the correct software as well as instructions for updating all your startup disks. You'll need to put the System File, the Finder, and the Hard Disk 20 file in the System Folder on your 400K startup disk. Always start up with this disk in your internal (400K) drive.

Use the new software to update your startup disks: No matter which Macintosh system you are using, be sure to replace any old versions of the Finder and System File on your startup disks with the versions on your *System Tools* disk. You need both of these system files on each of your startup disks to give you greater speed, the hierarchical file system, and the ability to use double-sided disks in your 800K drive.

Using your drive

If you have used your Macintosh before, you already know how to insert and remove disks. You may want to skip the next two sections and read the section "Initializing a Disk" to see how you can use both 400K and 800K disks.

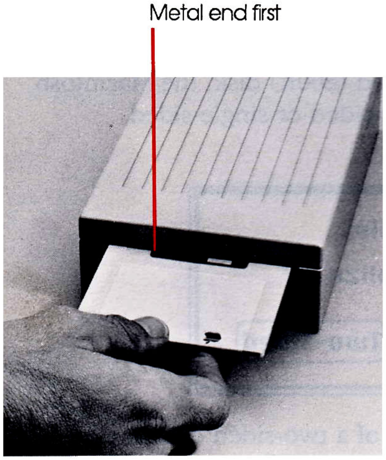


Figure 2-3
Inserting a 3.5-inch disk

Inserting a disk

Insert your 3.5-inch disk into the slot on the front of your disk drive, metal end first, label side up. When the disk is nearly all the way in, the drive's internal mechanism automatically locks it into place.

Removing a disk

There are several ways you can remove a disk from this drive when the Macintosh is on:

- Choose Eject from the File menu to eject the selected disk.
- Choose Shut Down from the Special menu to eject any inserted disks and restart the Macintosh. This method is useful when you want to restart with a different startup disk.
- Press Command-Shift-2. (You may lose any unsaved changes if you eject disks this way.)

❖ *Note:* When you plug your Apple 3.5 Drive into a Macintosh, the eject button on the front of the drive is automatically deactivated because Macintosh software controls disk ejection. The eject button works only when the drive is connected to an Apple IIGS.

When the power is off: If there is a power failure, you can remove the disk from the drive manually. To remove a disk manually, use a straightened-out paper clip or similar object. Insert it into the access hole on the eject button. Push hard on the paper clip until the mechanical eject mechanism releases the disk. (If the disk doesn't come out, push harder so you release the spring inside the drive.)

Your disks are designed to be easily removable. You should not have to use force. If a disk gets stuck, see your dealer. You can lose data and damage both the disk and the drive mechanism by forcing a disk out.

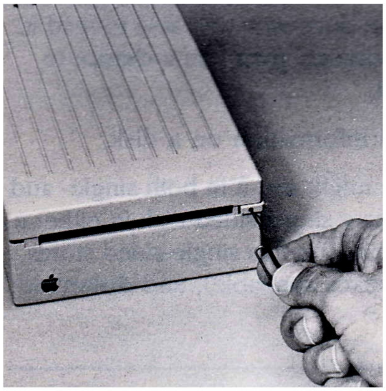
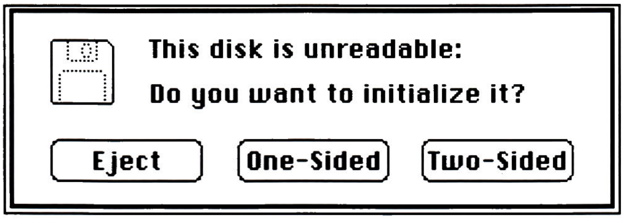


Figure 2-4
Removing a 3.5-inch disk manually

Initializing a disk

When you insert a blank double-sided (800K) disk, the Macintosh lets you initialize the disk as double-sided or single-sided.



This disk is unreadable:
Do you want to initialize it?

Normally, you'll initialize both sides of a two-sided disk to take advantage of increased speed and capacity, and the hierarchical file system. A disk initialized double-sided lets you use folders within an application as well as in the Finder. The Apple 3.5 Drive uses both sides of the disk, giving you 800K of storage on a disk initialized double-sided.

Once you have initialized a disk with the two-sided format, you can't use it in a 400K disk drive because the drive won't be able to read it. When you insert such a disk, the Macintosh gives you a chance to (re)initialize the disk as single-sided.

❖ *Remember:* Initializing erases all information on a disk.

Initialize a disk as single-sided if you might use it in both single- and double-sided disk drives. You can use a single-sided disk in either a 400K or an 800K disk drive. A disk initialized as single-sided stores only 400K of information (half the space available), and doesn't let you use folders within applications.

Warning If you initialize a single-sided disk as double-sided, you could lose all your data.

Transferring data from 400K to 800K disks

You may want to copy applications you have on 400K disks to double-sided 800K disks. You can do this by using normal Macintosh disk-copying procedures. See "Copying an Entire Disk" in *Macintosh*, your owner's guide.

Be sure to start your Macintosh by using a disk other than the one whose contents you want to replace; you can't replace the contents of the current startup disk. The Macintosh will tell you if there's not enough room on the destination disk—if you're trying to copy a full 800K disk to a 400K disk, for example.

If an application is copy protected, you may not be able to copy it to an 800K disk. You can continue to use the application from a single-sided 400K disk.

Troubleshooting

This section is for Macintosh users. Chapter 4 contains general troubleshooting tips for all Apple 3.5 Drive users.

The yellow disk doesn't eject.

Press and hold the mouse button down while you switch the Macintosh off and then on again. This should eject all disks.

As a last resort, remove the yellow packing disk manually. Insert a straightened paper clip or similar small object in the access hole on the eject button. Push hard on the paper clip until the mechanical eject mechanism releases the disk.

You're trying to install a second external drive.

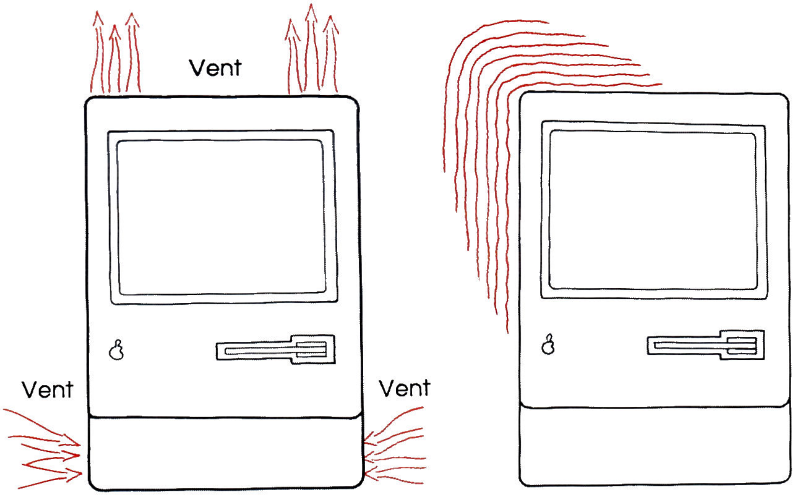
You cannot install a second external 800K drive on a Macintosh. Although it is physically possible to connect one, a second external drive won't work.

You can, however, connect a single Apple 3.5 Drive to an Apple Hard Disk 20 or to a chain of Hard Disk 20's.

Don't remove the plastic cap covering the connector on the back of the drive. That port is for Apple IIGS users who want to install more than one external drive.

Your drive is making lots of errors.

Make sure you have not blocked the air vents or placed the drive on top of the Macintosh where the electromagnetic field will interfere with the drive operation.



Major natural convection air flow for heat dissipation

Electromagnetic field interference (EMI) field intensity on the Macintosh

Figure 2-5
Giving your Macintosh the space it needs

You don't know if you have a ROM upgrade.

The Macintosh Plus Disk Drive Kit changes the built-in drive from single-sided to double-sided, gives you the new ROM, and provides the correct (Finder version 5.1, System File version 2.1) *System Tools* disk to use.

The Macintosh 512K *enhanced* has the new ROM and a double-sided built-in drive, and provides the correct (Finder version 5.1, System File version 2.1) *System Tools* disk to use.

The Macintosh Plus Logic Board Upgrade Kit, Part Number M2518, adds 1 megabyte of memory to the logic board. You must already have, or simultaneously purchase, the disk drive upgrade.

You're trying to use an 800K external drive with a 400K built-in drive.

You must use version 5.1 or a later version of the Finder, version 2.1 or a later version of the System File, and the file called Hard Disk 20. You must always start up from the internal drive. See your dealer for the Macintosh System Software Update, Part Number M0560.

We highly recommend that you purchase the Macintosh Plus Disk Drive Kit rather than continuing to use your 400K built-in drive.

Chapter 3

Care and Handling of Disks and Drives

Your Apple 3.5 Drive uses removable, double-sided 3.5-inch disks. Each disk can store up to 800 kilobytes of formatted data. The disk is enclosed in a rectangular cartridge. The cartridge protects the disk and contains materials that keep the disk clean and allow it to spin freely. The cartridge has a mechanical shutter that closes automatically to protect the recording surface when the disk is not in the drive.

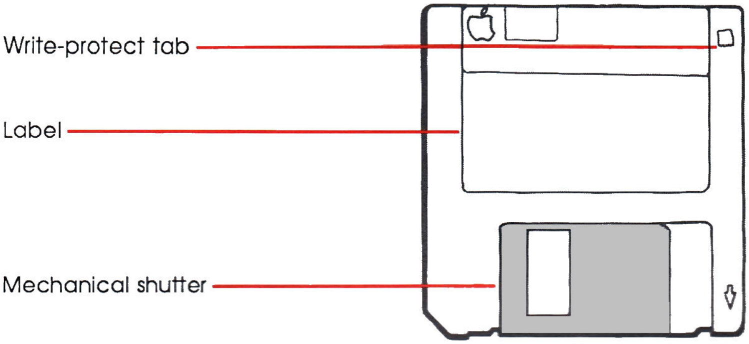


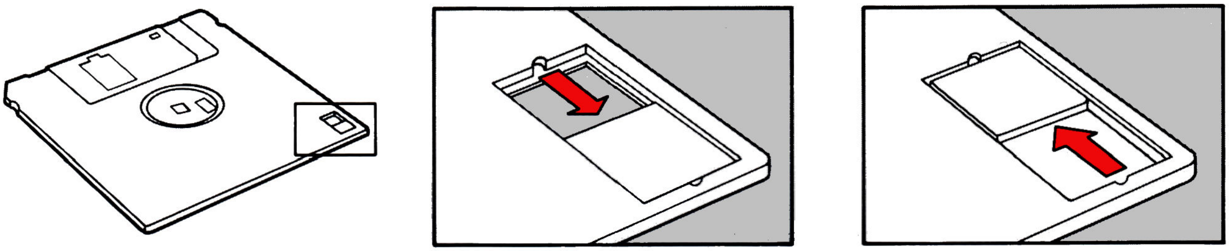
Figure 3-1
The 3.5-inch disk

Write protecting a 3.5-inch disk

When a disk is write protected, the computer cannot change information or write new information on the disk, but it can read any information that is already there. Use the write-protect tab when you want to protect information on your disk. Put the tab in the write-enable position when you want to save or change information on your disk.

- To write-protect your disk, turn the disk over and slide the tab toward the edge of the disk as shown in Figure 3-2.
- To write-enable your disk, slide the tab away from the edge of the disk to the write-enable position.

❖ *Note:* When you purchase 3.5-inch disks, they aren't write protected. You don't have to write-enable your disks in order to use them.



Write-protect position

Write-enable position

Figure 3-2
Using the write-protect tab

Care and handling of 3.5-inch disks

Your 3.5-inch disks are quite sturdy. However, you should follow a few general rules when handling the disks:

- Don't remove a disk from the drive when the red in-use light is on. The light indicates that the drive is reading information from or writing to the disk.
- Never use force to remove a disk from a drive. Follow the instructions in "Removing a Disk" in Chapter 1 or 2.
- Never open the disk shutter while your disk is out of the drive. Doing so will expose the data surface to dirt, dust, fingerprints, and other contamination.
- Avoid attaching more than three labels to a disk. Too many labels will make a disk stick in the drive.
- Replace loose labels. Don't force a disk with a loose label into a drive.

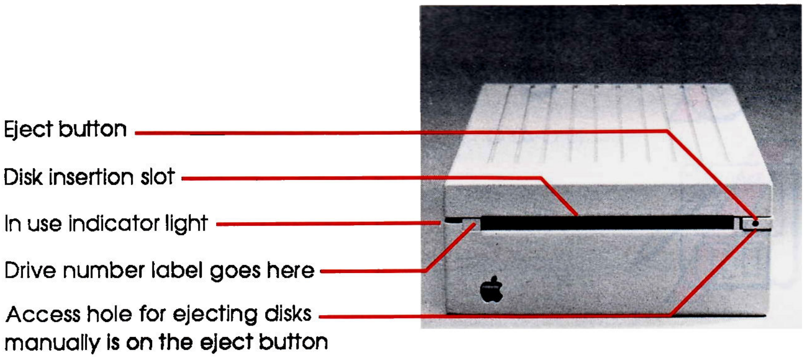

Eject button
Disk insertion slot
In use indicator light
Drive number label goes here
Access hole for ejecting disks manually is on the eject button

Figure 3-3
The front of the Apple 3.5 Drive

- When a label is already attached to a disk, use a felt-tip pen to write on it. You can use any kind of pen or pencil to write on an unattached label.
- Do not use an eraser on the label. Eraser dust is abrasive and can contaminate the disk surface or the drive mechanism.
- Do not place disks on dirty or greasy surfaces; do not let them collect dust.
- Store disks in protective boxes and away from direct sunlight, moisture, and extremes of heat and cold.
- Keep disks away from magnets or electrical devices.

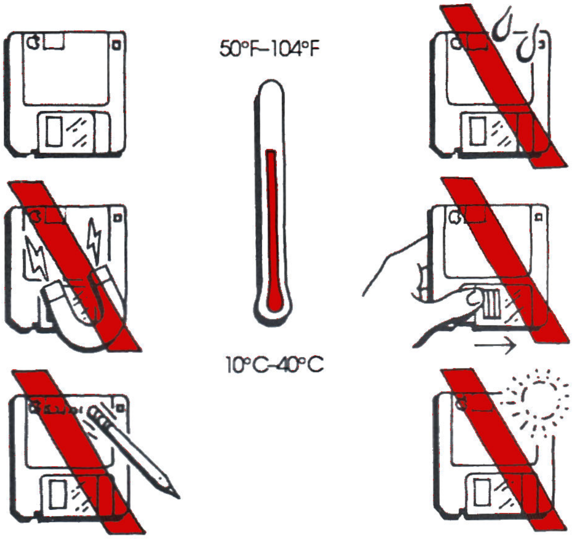


Figure 3-4
Care and handling of 3.5-inch disks

Caring for your disk drive

Your Apple 3.5 Drive is a precision, electromechanical data storage device. It has motors and moving parts that make it somewhat more delicate than your computer. Follow these precautions to keep your drive in good working order:

- Never touch the metal pins inside the disk drive connector.
- Unplug the drive or plug it in only when your computer is turned off.
- Whenever the disk drive is not attached to the computer, cover the disk drive connector with its anti-static bag.
- When you transport the disk drive, insert the yellow packing disk to protect the drive's internal mechanism. (The magnetic heads in the drive have hard ceramic surfaces that could crack if they contact each other.) If you lose the yellow disk, use a blank disk during transport.
- Before you reattach the disk drive to your computer, discharge any static electricity on your body by touching one of the metal connectors on the back panel.

Chapter 4

Troubleshooting

This chapter is a general troubleshooting guide for both Macintosh and Apple IIGS users. There are further troubleshooting tips in Chapter 1 for Apple IIGS users, and in Chapter 2 for Macintosh users.

General tips for all users

If you try to use your Apple 3.5 Drive but it does not work, make sure that you have

- Plugged the cable from the Apple 3.5 Drive into the computer.
- Plugged your computer's power cord into an outlet or a power strip.
- Removed the yellow packing disk from the drive.
- Left some space between the drive and the monitor. Non-Apple monitors connected to the Apple IIGS may cause the drive to have errors because of the electromagnetic interference (EMI) field emitted by the monitor. Apple monitors are shielded to contain the EMI. The left side of the Macintosh emits some EMI. See Figure 2-5.
- Turned on your computer.
- Correctly inserted a 3.5-inch disk into your Apple 3.5 Drive.

If your Apple 3.5 Drive still doesn't work, contact your dealer.

Do not attempt to open your Apple 3.5 Drive; opening the drive will void your warranty.

Service and support

To help you get the best performance from your system, Apple Computer, Inc. has established a worldwide network of full-support authorized Apple dealers. If you need answers to technical questions or information about product updates, your authorized Apple dealer can help you. Apple's Technical Support organization backs each dealer and international technical support group via AppleLink, a state-of-the-art on-line electronic information service, to ensure prompt, reliable assistance.

Your dealer has the latest information on new hardware and software products as well as product updates. If you wish to upgrade your system, your dealer can help you select compatible components.

If your product requires service, your local authorized Apple dealer is trained and ready to support you. Apple provides factory-quality parts and the latest available diagnostic equipment to the more than three thousand authorized Apple service centers throughout the world. Apple guarantees parts and warranty labor. (Regulations in each country determine the length of warranty. Some restrictions may apply, depending on the country of original purchase.)

If for some reason you cannot return to the authorized dealer from whom you purchased your system, go to the nearest service location. For the location nearest you, in the United States, call (800) 538-9696; in Canada, call (800) 268-7796 or (800) 268-7637. For locations in other countries, either call the Apple headquarters in your country or write to

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Apple also offers service options designed to meet your needs. They range from carry-in contracts like the Apple*Care*® Service Agreement (U.S., Canada, and Australia only), which extends full warranty coverage up to three years, to self-service plans designed to allow large installations to repair their own equipment. Whether you use your computer at home, in the office, or at school, Apple has a low-cost service plan for you. For details, please visit your authorized Apple dealer.

Appendix A

Daisy-Chain Drive Combinations for the Apple IIGS

This appendix discusses all the possible daisy-chain drive combinations for the Apple IIGS.

It is possible to daisy-chain more than four disk drives on your Apple IIGS. Remember, however, that the computer supplies all the power for your drives. If you try to daisy-chain more than four drives, there may be too much drain on the power supply, and the long cable length may pick up electrical signal noise that could affect how your drive works.

Chaining

In a chain of up to four drives, you can connect

- 0, 1, or 2 Apple 3.5 Drives. They should be the first in the chain.
- 0, 1, or 2 UniDisk 3.5 Drives. They should precede any 5.25-inch drives in the chain.
- 0, 1, or 2 Apple 5.25 Drives (including the UniDisk, the DuoDisk, and the Apple IIc external drive).

❖ *Note:* The Apple 3.5 Drives should come first in any chain, and all 3.5-inch drives should come before any 5.25-inch drives in the chain.

The Apple IIc external drive or the DuoDisk must be the last in a chain because neither has a daisy-chain port.

To daisy-chain a DuoDisk with a serial number below 433754, you must insert the DuoDisk controller card in slot 6.

The Disk II® drive cannot be chained because it doesn't have a DB-19 connector.

You may wish to install an optional fan if your system is heavily loaded with cards and other devices.

Startup drive selection

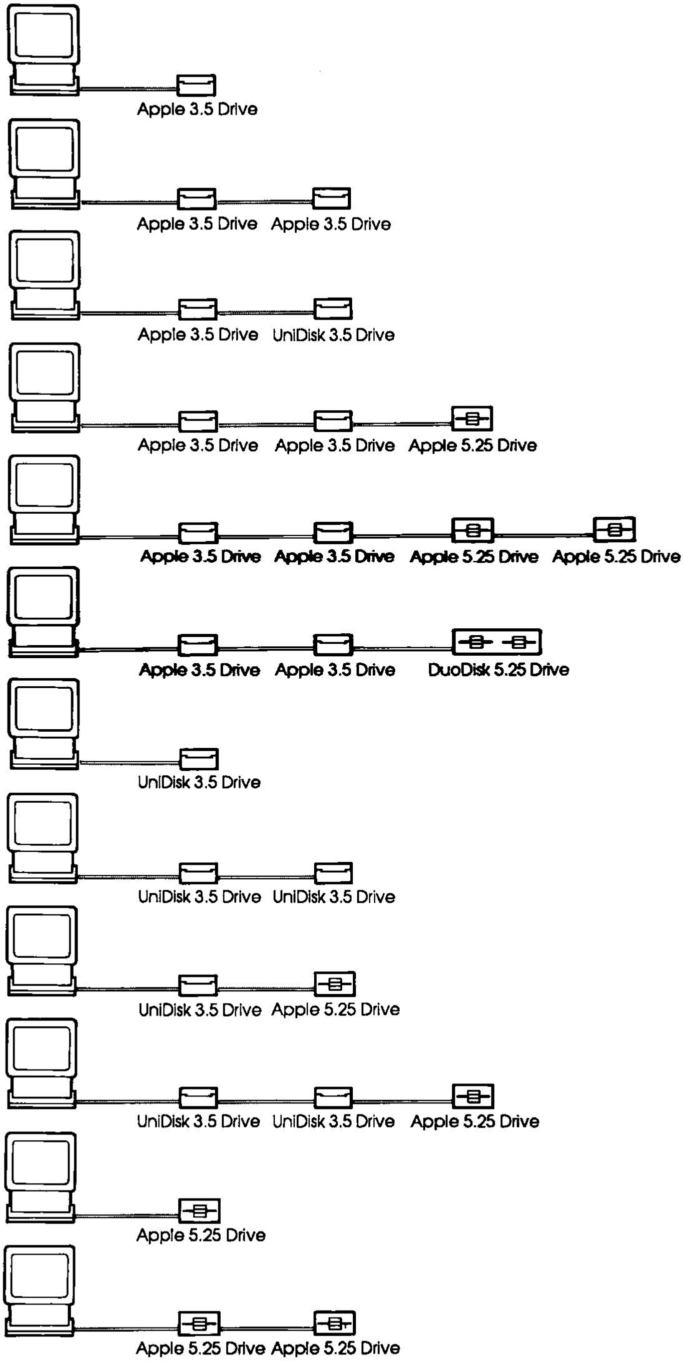
You can select a startup drive by using the Control Panel. The Apple IIGS follows this default scan as it searches for a startup disk in the drives connected to it:

1. It looks in slot 6 for a disk in a 5.25-inch drive.
2. It looks in slot 5 for a disk in a 3.5-inch drive.

The Apple IIGS tries to start up only from the first device in any slot. The Apple IIGS reads from an Apple 3.5 Drive before it reads from a UniDisk 3.5 Drive.

The Apple IIGS reads a disk in the 5.25-inch drive first, even *if it is* not the first drive in the chain. If no disk is found in the 5.25-inch drive, the Apple IIGS looks for a disk in the Apple 3.5 Drive connected to slot 5, drive 1. If the Apple IIGS can't find an Apple 3.5 Drive, it will start up from a UniDisk 3.5 Drive.

If you chain an Apple 3.5 Drive and a UniDisk 3.5 Drive, the Apple IIGS will read the disk in the Apple 3.5 Drive. The Apple IIGS will not try to start up from the UniDisk 3.5 if an Apple 3.5 Drive is connected.


Apple 3.5 Drive
Apple 3.5 Drive Apple 3.5 Drive
Apple 3.5 Drive UniDisk 3.5 Drive
Apple 3.5 Drive Apple 3.5 Drive Apple 5.25 Drive
Apple 3.5 Drive Apple 3.5 Drive Apple 5.25 Drive Apple 5.25 Drive
Apple 3.5 Drive Apple 3.5 Drive DuoDisk 5.25 Drive
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UniDisk 3.5 Drive Apple 5.25 Drive
UniDisk 3.5 Drive UniDisk 3.5 Drive Apple 5.25 Drive
Apple 5.25 Drive
Apple 5.25 Drive Apple 5.25 Drive

Figure A-1
Theoretical drive configurations

Appendix B

Apple 3.5 Drive Specifications

The Apple 3.5 Drive has two magnetic heads that enable it to record and play back digital information on both surfaces of a disk. The drive is equipped with its own electronics to process the data signal and control the disk speed, head positioning, and other drive functions. There is a separate printed circuit board that performs the logic function for daisy-chaining, and allows the drive to interface with either an Apple IIGS or a Macintosh computer.

Formatted data capacity	819.2 kilobytes per drive 409.6 kilobytes per surface
Data transfer rate	489.6 kilobits per second
Disk rotational speed	394 to 590 rpm, discretely variable

There is a nearly constant linear velocity between the disk and the head. There is a minimal change in the linear recording density as the head moves from the inner to the outer radius on the disk.

Number of cylinders	80
Number of tracks	160
Number of read/write heads	2
Operating temperature	10°C to 40°C ambient 50°F to 104°F ambient
Power	12 volts: 600 ma maximum 5 volts: 270 ma typical
Weight	1.39 kg, (3.05 lb)
Case dimensions	120 W x 56 H x 200 L mm

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This Apple manual was written, edited, and composed on a desktop publishing system using the Apple Macintosh™ Plus and Microsoft® Word. Proof and final pages were created on the Apple LaserWriter™ Plus. POSTSCRIPT™, the LaserWriter's page-description language, was developed by Adobe Systems Incorporated.

Text type is ITC Garamond® (a downloadable font distributed by Adobe Systems). Display type is ITC Avant Garde Gothic®. Bullets are ITC Zapf Dingbats®. Program listings are set in Apple Courier, a monospaced font.

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Apple 3.5 Drive

Packing List

This package contains the following items:

1	Apple 3.5 Drive	603-6101
1	Manual: *Apple 3.5 Drive Owner's Guide* With Tell Apple Card	030-0126 030-1372
1	Drive label	825-1305
1	Warranty card	030-0967

If you have any questions, please contact your authorized Apple dealer.

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